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near site and the astigmatism, by correcting, for example, the curvature or the irregularity of the cornea).

IN THE CLAIMS:

Please replace claims 1-28 as follows:

1. (Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light which has passed through the pattern of the first object, wherein

the laser device includes:

a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region;

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an optical amplification section including plural stages of optical fiber amplifiers which serially amplify the laser light generated by the laser light generation section, and a narrow band filter and an isolator disposed between the plural stages of the optical fiber amplifiers; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into ultraviolet light by using a nonlinear optical crystal.

2. (Amended) An exposure apparatus as recited in claim 1, wherein

the laser device includes an excitation-light generating light source which generating excitation light which is to be used at at least one of the plural stages of the optical fiber amplifiers, and the optical amplifier is formed such that a reflection film which reflects the excitation light is formed at one end of the optical fiber coupled to the narrow band filter.

3. (Amended) An exposure apparatus as recited in claim 1, wherein

the narrow band filter and the isolator reduce noise of a wavelength corresponding to a phonon sideband.

4. (Amended) An exposure apparatus as recited in claim 1, wherein

at least three stages of the optical fiber amplifiers are provided, and the narrow band filter and the isolator are respectively provided between the individual optical fiber amplifiers.

5. (Amended) An exposure apparatus as recited in claim 1, wherein

a gate device, which performs timewise removal of ASE (amplified spontaneous emission), is further provided between the plural stages of the optical fiber amplifiers.

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6. (Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light which has passed through the pattern of the first object, wherein

the laser device includes:

a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region;

an optical amplification section including plural stages of amplifying optical fibers which serially amplify the laser light generated by the laser light generation section, an excitation-light generating light source which generates excitation light for at least one stage of the amplifying optical fiber of the plural stages of the amplifying optical fibers, a narrow band filter or an isolator disposed between the plural stages of the amplifying optical fibers, and a bypass member which passes the excitation light in parallel to the narrow band filter or the isolator; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into ultraviolet light by using a nonlinear optical crystal.

7. (Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light which has passed through the pattern of the first object, wherein

the laser device includes:

a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region;

an optical amplification section including plural stages of optical fiber amplifiers which serially amplify the laser light generated by the laser light generation section, a plurality of excitation-light generating light sources which individually generate excitation lights for each of the plural stages of the optical fiber amplifiers, and a narrow band filter disposed between the plural stages of the optical fiber amplifiers, wherein a reflection film which reflects the excitation light is formed at one end of each of the optical fibers coupled to both sides of the narrow band filter; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into ultraviolet light by using a nonlinear optical crystal.

8. (Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light which has passed through the pattern of the first object, wherein

the laser device includes:

a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region;

an optical modulation section which modulates the laser light generated by the laser light generation section with a predetermined repetition frequency into pulsed light having a predetermined width;

an optical amplification section including an optical fiber amplifier which amplifies the laser light which has passed through the optical modulation section; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into ultraviolet light by using a nonlinear optical crystal, wherein

the width of the pulsed light modulated by the optical modulation section is set wider than a pulsewidth set for obtaining a predetermined wavelength width with finally generated ultraviolet light.

9. (Amended) An exposure apparatus as recited in claim 8, wherein the width of the pulsed light modulated by the optical modulation section is 2 to 5 ns.

10. (Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light which has passed through the pattern of the first object, wherein

the laser device includes:

a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region;

an optical amplification section including an optical fiber amplifier which amplifies the laser light generated by the laser light generation section, a transmitting optical fiber

which propagates the laser light amplified by the optical fiber amplifier, and a narrow band filter disposed between the optical fiber amplifier and the transmitting optical fiber; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into ultraviolet light by using a nonlinear optical crystal.

11. (Amended) An exposure apparatus as recited in claim 10, wherein the narrow band filter is concurrently used as a wavelength division multiplexing device for multiplexing which feeds excitation light to the optical fiber amplifier.

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12. (Amended) An exposure apparatus as recited in claim 1, wherein the laser device includes an optical modulation section which modulates the laser light generated by the laser light generation section into pulsed light and which sets the width of the pulsed light to be wider than a pulsewidth set for obtaining a predetermined wavelength width with the ultraviolet light.

13. (Amended) An exposure apparatus as recited in claim 12, wherein the laser device includes an optical splitter which splits the laser light generated by the laser light generation section into a plurality of laser light beams, the optical amplification section is independently provided for each of the plural split laser light beams, and the laser device further includes a regulator which regulates an amplification gain of the optical amplification sections so that outputs of the plurality of split laser light beams are substantially uniformalized.

14. (Amended) An exposure apparatus as recited in claim 1, ~~characterized in that~~ wherein the optical fiber amplification section is an erbium-doped fiber amplifier and uses laser light having a wavelength of (980±10) nm as the excitation light for the amplifier.

15. (Amended) An exposure apparatus as recited in claim 1, wherein a multilayer film filter or a fiber Bragg grating is used for the narrow band filter.

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16. (Amended) An exposure apparatus as recited in claim 1, wherein the laser light generation section includes a single wavelength oscillatory laser which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region, and an oscillation-wavelength control means which controls an oscillation wavelength of the generated laser light to be a predetermined wavelength.

17. (Amended) An exposure apparatus as recited in claim 1, wherein
the laser device further includes an optical splitter which splits the laser light generated by the laser light generation section into a plurality of laser light beams,
the optical amplification section is independently provided for each of the plural split laser light beams, and
the wavelength conversion section performs collective wavelength conversion of a bundle of the laser light beams output from the plural optical amplification sections.

18. (Amended) An exposure apparatus as recited in claim 17, further comprising a regulator which regulates an amplification gain of the optical amplification sections so that outputs of the plurality of split laser light beams are substantially uniformalized.

19. (Amended) An exposure apparatus as recited in claim 17, wherein the regulator changes the output of the excitation light used for the optical fiber amplifier in the optical amplification section.

20. (Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light which has passed through the first object, wherein

the laser device includes:

a laser generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region, an optical splitter which splits the laser light into a plurality of laser light beams, a plurality of optical fiber amplifiers which respectively and independently amplify the plurality of split laser light beams, a wavelength conversion section which performs wavelength conversion of the amplified laser light beams, and

the laser device includes a regulator which regulates an amplification gain at at least one of the plurality of the optical fiber amplifiers so that outputs of the plurality of split laser light beams are substantially uniformalized.

21. (Amended) An exposure apparatus as recited in claim 20, wherein the regulator controls an excitation-light generating light source which generates excitation light used in the at least one optical fiber amplifier.

22. (Amended) An exposure apparatus as recited in ~~of~~ claim 1 wherein

the laser light generation section generates single wavelength laser light having a wavelength of near 1.5 μm, and

the wavelength conversion section converts a fundamental wave output from the optical amplification section having a wavelength of near 1.5 μm into ultraviolet light of an eighth-order harmonic wave or a tenth-order harmonic wave and outputs the converted light.

23. (Amended) An exposure apparatus as recited in claim 1 wherein

the laser light generation section generates a single wavelength laser light having a wavelength of near 1.1 μm, and

the wavelength conversion section converts a fundamental wave output from the optical amplification section having a wavelength of near 1.1 μm into ultraviolet light of a seventh-order harmonic wave thereof and outputs the converted light.

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24. (Amended) An exposure apparatus as recited in claim 1 comprising:

an illumination system which radiates ultraviolet light from the laser device onto a mask as the first object: and

a projection optical system which projects an image of a pattern of the mask onto a substrate as the second object.

25. (Amended) An exposure method using an exposure apparatus as recited in claim 1, comprising using the ultraviolet light output from the laser device to perform alignment between the first object and the second object.

26. (Amended) A method of manufacturing an exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and that expose a second object with the ultraviolet light which has passed through the pattern of the first object, comprising configuring the laser device by disposing, with a predetermined relationship,

a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region,

an optical amplification section including plural stages of optical fiber amplifiers which serially amplify the laser light generated by the laser light generation section, and a narrow band filter and an isolator disposed between the plural stages of the optical fiber amplifiers, and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into ultraviolet light by using a nonlinear optical crystal.

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27. (Amended) A method of manufacturing an exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and which exposes a second object with the ultraviolet light which has passed through the pattern of the first object, comprising configuring the laser device by disposing, with a predetermined relationship,
a laser light generation section which generates single wavelength laser light in a wavelength range of from an infrared region to a visible region;
an optical amplification section including plural stages of amplifying optical fibers which serially amplify the laser light generated by the laser light generation section, an excitation-light generating light source which generates excitation light for at least one stage of the amplifying optical fiber of the plural stages of the amplifying optical fibers, a narrow band filter or an isolator disposed between the plural stages of the amplifying optical fibers, and a bypass member which passes the excitation light in parallel to the narrow band filter or the isolator; and